

The "Raven" detector and 2 L.F. battery receiver produced by Aerodyne Radio, Ltd., is both simple and straightforward. It forms a useful service guide to the many similar receivers that are in use.

VALVE READINGS

No signal. No reaction.

| Valve. | Type. | Elec- trode. | Volts. | M.A. |
|--------|----------|-----------------|--------|------|
| 1 | PM1HL... | ... | 80 | 2 |
| 2 | PM1LF | ... | 120* | 4.1 |
| 3 | PM2A | ... | 118* | 4 |

* With a new H.T. battery.

AERODYNE "RAVEN"

Circuit.—The leaky-grid detector PM1HL met (V1) is preceded by a tuned secondary aerial transformer. Selectivity is obtained by optional series aerial condensers C1 and C2.

To increase sensitivity, the grid leak is connected to a potentiometer R3 and R4 across the filament circuit. Straight transformer coupling with anode decoupling (R2, C7) is used.

The L.F. valve, PM1LF (V2), is followed by a second L.F. transformer.

The output valve, PM2A (V3), is compensated for top-note accentuation in the speaker by a condenser, C8, between the grid and earth.

The speaker is a moving-iron type.

Special Notes.—H.T. —, G.B. +, and L.T. — are broken by the switch.

The series aerial condenser C2 is inside systoflex mounted on the A2 terminal.

Removing Chassis.—Pull off the knobs, remove three screws underneath (one is under a felt), and lift chassis out.

General Notes.—The beginner to service can easily trace this simple circuit. The small condensers and resistances are supported in

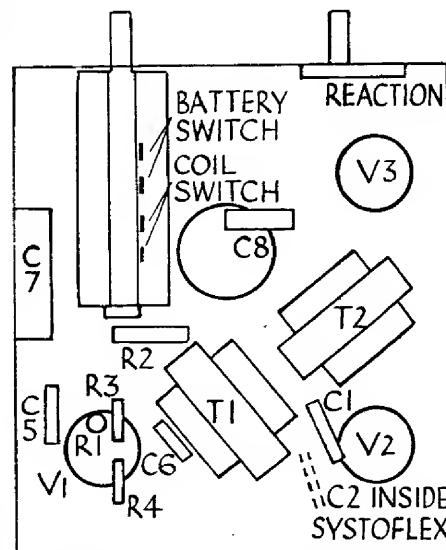
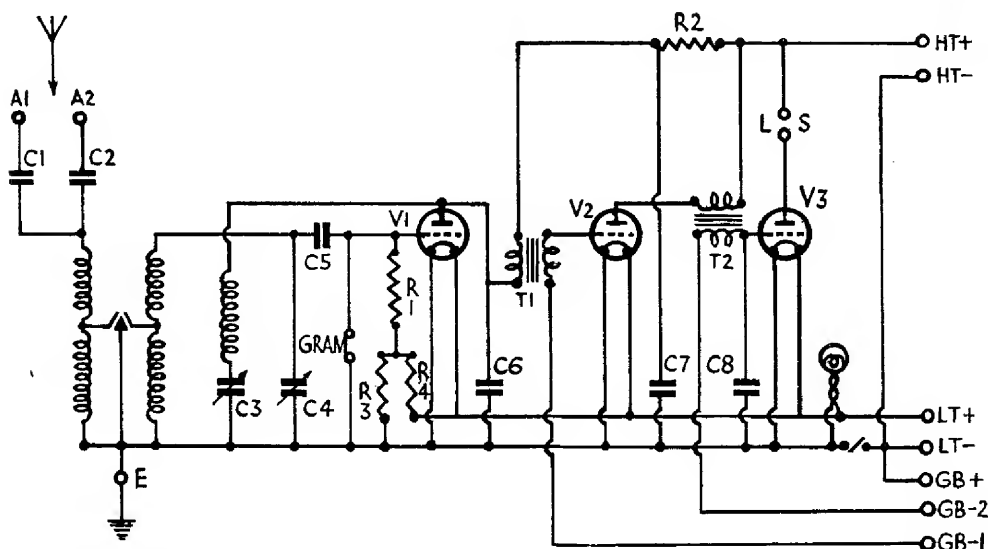
the wiring, and the L.F. transformers are bolted to the chassis, though the remainder of the components are riveted.

The transformers are a special low ratio type, T1 being 1.5 : 1 (brown), and T2, 2 : 1 (black). Their respective resistances are given in the table.

Replacing Chassis.—Lay chassis inside cabinet, replace three holding screws and the control knobs.

COMPONENT VALUES

| — | Purpose. | Value. |
|----|----------------------------|------------|
| R1 | V1 grid leak ... | 1 meg. |
| R2 | V1 anode decoupling ... | 20,000ohms |
| R3 | Ptr. across L.T. ... | 1 meg. |
| R4 | Ptr. across L.T. ... | 2 meg. |
| C1 | Aerial series ... | .0005 mfd. |
| C2 | Aerial series ... | .0001 mfd. |
| C5 | V1 grid ... | .0003 mfd. |
| C6 | V1 anode by-pass ... | .0001 mfd. |
| C7 | V1 anode decoupling ... | 1 mfd. |
| C8 | Across V3 grid ... | .001 mfd. |
| — | T1 primary resistance (DC) | 1,100 ohms |
| — | T1 secondary resistance | 1,500 ohms |
| — | T2 primary resistance | 1,100 ohms |
| — | T2 secondary resistance | 2,000 ohms |
| — | L.S. resistance ... | 2,750 ohms |



To increase the sensitivity of the detector the grid leak is taken to a potentiometer across the L.T. supply. On the right is the under-chassis layout of the "Raven."